DETAILED ACTION

Status of the Application

Examiner's Amendment

1.   An Examiner's amendment to the record appears below. Should the changes and/or

additions by unacceptable to applicant, an amendment may be filed as provided by 37 CFR

1.312. To ensure consideration of such amendment, it must be submitted no later than the

payment of the issue fee.

2.   Authorization for this Examiner's amendment was given during an email communication

with Greg O'Bradovich on 10/01/2010.

3.   The application has been amended as follows:

1-50.   (Cancelled).

51.   **(Previously Presented)** <u>The</u> method as recited in claim 54 further comprising:

        receiving, from said at least one supplier, a formal commitment to produce a needed

supply indicated in said constrained forecast.

52.   **(Previously Presented)** <u>The</u> method as recited in claim 54 further comprising:

receiving, from said at least one supplier, a communication when said at least one supplier is

unable to produce a needed supply indicated in said constrained forecast.

53.   **(Cancelled).**

54.   **(Currently Amended)** A method for facilitating supply chain collaboration over a

network including a processor, the supply chain including an enterprise, enterprise sites, and at

least one supplier, wherein the processor performs the method comprising:

        aggregating demand received, at a central server of the enterprise, from a plurality of

enterprise sites associated with the enterprise, the demand comprising materials requirements;

wherein each of the plurality of enterprise sites comprises divisions that share common material

requirements with divisions from others of the plurality of enterprise sites, the common material

requirements for each of the divisions corresponding with a product or commodity;

        generating, using a material requirement planning system (MRP) located at an enterprise

site, an unconstrained forecast resulting from the aggregating, the unconstrained forecast

generated at a product or commodity level, wherein the unconstrained forecast represents at least

one of an aggregated demand and a projected forecast received from a group scattered among the

plurality of enterprise sites, and wherein the unconstrained forecast does not take into

consideration any resource constraints;

        transmitting the unconstrained forecast over the network to each of the suppliers that

service the enterprise sites for which the unconstrained forecast is generated;

receiving supplier capability statements over the network, the supplier capability

statements received by the division at each of the enterprise sites from corresponding suppliers

in response to the transmitting;

performing, using the central server, a squared set analysis by generating square sets and

adding capacity constraints to the unconstrained forecast by imploding component data related to

the unconstrained forecast and tracing the component data through a manufacturing cycle while

factoring at least one of constraints and business rules, wherein square sets represent an exploded

demand for the components, wherein the square sets thereby avoid generation of demand for

components that will not be consumed;

based on the results of the squared set analysis, generating, using the central server, a squared set

build plan that is site-specific build plan for each of the plurality of enterprise sites associated

with the enterprise, ~~the squared set build plan being generated by generating square sets and~~

~~adding capacity constraints to the unconstrained forecast by imploding component data related to~~

~~the unconstrained forecast and tracing the component data through a manufacturing cycle while~~

~~factoring at least one of constraints and business rules, wherein square sets represent an exploded~~

~~demand for the components, wherein the square sets thereby avoid generation of demand for~~

~~components that will not be consumed~~;

based on the results of the squared set build plan, generating, using the MRP system, a

constrained forecast, wherein the constrained forecast is at least one of equal or less than the

unconstrained forecast, and wherein the constrained forecast takes into consideration all resource

constraints and limits the constrained forecast to most limiting constraints;

receiving a formal commitment from the suppliers that service the enterprise sites;

transmitting the constrained forecasts to the suppliers at an enterprise site level over the network,

wherein the constrained forecasts are sent to only the suppliers who provided the formal

commitment;

monitoring inventory levels at a replenishment service center by said at least one supplier based

upon said formal commitment;

refilling inventory items at said replenishment service center according to said formal

commitment;

      facilitating delivery of said inventory items to a site location for said enterprise by

transmitting a pull signal to said replenishment service center; and

      receiving said inventory items in response to said pull signal.

55. **(Previously Presented)** The method of claim 54, wherein the unconstrained forecast is

generated via a centralized material resource planning engine at the enterprise.

56. **(Previously Presented)** The method of claim 54, wherein generating the unconstrained

forecast includes exploding the aggregated demand into time-bucketed materials requirements at

the product or commodity level.

57. **(Previously Presented)** The method of claim 54, wherein the unconstrained forecast is

transmitted to each of the suppliers via the world wide web.

58.   **(Previously Presented)** The method of claim 54, wherein the supplier capability

statements include a greatest amount of materials each of the suppliers is able to make available

to the division.

59.   **(Previously Presented)** The method of claim 54, wherein the generating a constrained

forecast includes:

        inputting the supplier capability statements into a centralized constraint-based

optimization tool at the central server, the centralized constraint-based optimization tool

performing squared set analysis and applying capacity constraints;

producing the squared set build plan from results of the squared set analysis; and

inputting the squared set build plan into a materials resource planning tool for processing,

the results of the processing used in generating the constrained forecast.

60.   **(Previously Presented)** The method of claim 59, wherein squared sets resulting from the

squared set analysis include an exploded demand including optimized volumes.

61.   **(Previously Presented)** The method of claim 59, wherein the performing squared set

analysis further comprises imploding component data, tracing the component data through a

manufacturing cycle up to a final product while factoring in at least one of constraints and

business rules.

62.   (**Currently Amended**) A <u>non-transitory</u> storage medium encoded with machine-readable

computer program code for facilitating supply chain collaboration over a network, the supply

chain including an enterprise, enterprise sites, and at least one supplier, the storage medium

including instructions for causing a computer to implement a method comprising:

aggregating demand received, at a central server of the enterprise, from a plurality of

enterprise sites associated with the enterprise, the demand comprising materials requirements;

wherein each of the plurality of enterprise sites comprises divisions that share common material

requirements with divisions from others of the plurality of enterprise sites, the common material

requirements for each of the divisions corresponding with a product or commodity;

generating<u>, using a material requirement planning system (MRP) located at an enterprise</u>

<u>site,</u> an unconstrained forecast resulting from the aggregating, the unconstrained forecast

generated at a product or commodity level, wherein the unconstrained forecast represents at least

one of an aggregated demand and a projected forecast received from a group scattered among the

plurality of enterprise sites, and wherein the unconstrained forecast does not take into

consideration any resource constraints;

transmitting the unconstrained forecast over the network to each of the suppliers that

service the enterprise sites for which the unconstrained forecast is generated;

receiving supplier capability statements over the network, the supplier capability

statements received by the division at each of the enterprise sites from corresponding suppliers

in response to the transmitting;

<u>performing, using the central server, a squared set analysis by generating square sets and</u>

<u>adding capacity constraints to the unconstrained forecast by imploding component data related to</u>

the unconstrained forecast and tracing the component data through a manufacturing cycle while

factoring at least one of constraints and business rules, wherein square sets represent an exploded

demand for the components, wherein the square sets thereby avoid generation of demand for

components that will not be consumed;

based on the results of the squared set analysis, generating, using the central server, a squared set

build plan that is site-specific build plan for each of the plurality of enterprise sites associated

with the enterprise, ~~the squared set build plan being generated by generating square sets and~~

~~adding capacity constraints to the unconstrained forecast by imploding component data related to~~

~~the unconstrained forecast and tracing the component data through a manufacturing cycle while~~

~~factoring at least one of constraints and business rules, wherein square sets represent an exploded~~

~~demand for the components, wherein the square sets thereby avoid generation of demand for~~

~~components that will not be consumed;~~

based on the results of the squared set build plan, generating, using the MRP system, a

constrained forecast, wherein the constrained forecast is at least one of equal or less than the

unconstrained forecast, and wherein the constrained forecast takes into consideration all resource

constraints and limits the constrained forecast to most limiting constraints;

receiving a formal commitment from the suppliers that service the enterprise sites;

transmitting the constrained forecasts to the suppliers at an enterprise site level over the network,

wherein the constrained forecasts are sent to only the suppliers who provided the formal

commitment;

monitoring inventory levels at a replenishment service center by said at least one supplier based

upon said formal commitment;

refilling inventory items at said replenishment service center according to said formal

commitment;

facilitating delivery of said inventory items to a site location for said enterprise by

transmitting a pull signal to said replenishment service center; and

receiving said inventory items in response to said pull signal.

63.   **(Previously Presented)** The storage medium of claim 62, wherein the unconstrained

forecast is generated via a centralized material resource planning engine at the enterprise.

64.   **(Previously Presented)** The storage medium of claim 62, wherein generating the

unconstrained forecast includes exploding the aggregated demand into time-bucketed materials

requirements at the product or commodity level.

65.   **(Previously Presented)** The storage medium of claim 62, wherein the unconstrained

forecast is transmitted to each of the suppliers via the world wide web.

66.   **(Previously Presented)** The storage medium of claim 62, wherein the supplier capability

statements include a greatest amount of materials each of the suppliers is able to make available

to the division.

67.   **(Previously Presented)** The storage medium of claim 62, wherein the generating a

constrained forecast includes:

inputting the supplier capability statements into a centralized constraint-based

optimization tool at the server, the centralized constraint-based optimization tool performing

squared set analysis and applying capacity constraints;

producing the squared set build plan from results of the squared set analysis; and

inputting the squared set build plan into a materials resource planning tool for processing,

the results of the processing used in generating the constrained forecast.

68.   **(Previously Presented)** The storage medium of claim 67, wherein squared sets resulting

from the squared set analysis include an exploded demand including optimized volumes.

69.   **(Previously Presented)** The storage medium of claim 67, wherein the performing

squared set analysis further comprises imploding component data, tracing the component data

through a manufacturing cycle up to a final product while factoring in at least one of constraints

and business rules.

Allowable Subject Matter

4.   Claims 51-52 and 54-69 are allowed.

The prior art, Lidow (US 2002/0194057), teaches a supply chain architecture wherein a server

receives forecasts from the customers detailing the orders that the customers desires. These

forecasts are analyzed by the supply chain server to ensure that they conform to contractual

agreements and don not contain errors. The forecasts are also used to warn the suppliers of future

demands so that the suppliers can anticipate demands and plan inventory accordingly. Once

supplier demand issues are resolved, the forecasts are sent to the suppliers in groups so that the

suppliers prepare a smaller number of large orders. The supply chain server also controls the

processes involved in distributing the product from the suppliers to the customers including the

generation and payment of invoices. The consolidated forecasts for specific supplier

requirements are the unconstrained forecasts that do not take into consideration any resource

constraints. Checking the capability of the suppliers to provide the requested items, and

providing constrained forecasts based on the capability of the suppliers to provide the requested

items. The consolidated unconstrained forecasts do not take into consideration any resource

constraints are then transmitted to the suppliers in order to determine whether the forecast

demand is greater than the supplier's capacity. The supply chain server queries whether the

aggregated customer demand is greater than the supplier capacity. supplier capacity may be

determined from data supplied by the suppliers to the server or by suppliers allowing access to

their respective databases. Upon the determination that demand is greater than supply, the supply

chain server begins the constrained supply planning routine. If demand cannot be successfully

redistributed and it is determined that demand is still greater than supply, intervention with the

suppliers occurs. Upon further determination that demand is greater than supply, the supply

chain server communicates with customer to ascertain any possible customer flexibility such as

part substitutions and/or postponed delivery to thereby produce a new customer demand. This

new customer demand provides the constrained forecast since it is the result of and is constrained

by the capability of the supplier to provide the part. When supply issues have been resolved, the

customer's demands are sent to the suppliers in groups so that the suppliers need to prepare a

smaller number of large orders. In allocate supply routine, the parts which actually are available

from suppliers (constrained parts) are allocated equally among the demanding customer.

Lidow lack a method for facilitating supply chain collaboration over a network including

a processor, the supply chain including an enterprise, enterprise sites, and at least one supplier,

wherein the processor performs the method comprising: aggregating demand received, at a

central server of the enterprise, from a plurality of enterprise sites associated with the enterprise,

the demand comprising materials requirements; wherein each of the plurality of enterprise sites

comprises divisions that share common material requirements with divisions from others of the

plurality of enterprise sites, the common material requirements for each of the divisions

corresponding with a product or commodity; generating, using a material requirement planning

system (MRP) located at an enterprise site, an unconstrained forecast resulting from the

aggregating, the unconstrained forecast generated at a product or commodity level, wherein the

unconstrained forecast represents at least one of an aggregated demand and a projected forecast

received from a group scattered among the plurality of enterprise sites, and wherein the

unconstrained forecast does not take into consideration any resource constraints; transmitting the

unconstrained forecast over the network to each of the suppliers that service the enterprise sites

for which the unconstrained forecast is generated; receiving supplier capability statements over

the network, the supplier capability statements received by the division at each of the enterprise

sites from corresponding suppliers in response to the transmitting; performing, using the central

server, a squared set analysis by generating square sets and adding capacity constraints to the

unconstrained forecast by imploding component data related to the unconstrained forecast and

tracing the component data through a manufacturing cycle while factoring at least one of

constraints and business rules, wherein square sets represent an exploded demand for the

components, wherein the square sets thereby avoid generation of demand for components that

will not be consumed; based on the results of the squared set analysis, generating, using the

central server, a squared set build plan that is site-specific build plan for each of the plurality of

enterprise sites associated with the enterprise; based on the results of the squared set build plan,

generating, using the MRP system, a constrained forecast, wherein the constrained forecast is at

least one of equal or less than the unconstrained forecast, and wherein the constrained forecast

takes into consideration all resource constraints and limits the constrained forecast to most

limiting constraints; receiving a formal commitment from the suppliers that service the enterprise

sites; transmitting the constrained forecasts to the suppliers at an enterprise site level over the

network, wherein the constrained forecasts are sent to only the suppliers who provided the

formal commitment; monitoring inventory levels at a replenishment service center by said at

least one supplier based upon said formal commitment; refilling inventory items at said

replenishment service center according to said formal commitment; facilitating delivery of said

inventory items to a site location for said enterprise by transmitting a pull signal to said

replenishment service center; and receiving said inventory items in response to said pull signal.

The combinations of limitations, clearly presented in the claims of this application are

novel, unobvious and allowable.

Foreign prior art and NPL search was conducted however no relevant prior art was found.

Any comments considered necessary by applicant must be submitted no later than the

payment of the issue fee and, to avoid processing delays, should preferably accompany the issue

fee. Such submissions should be clearly labeled "comments on statement of reasons for allowance".

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to FAHD A. OBEID whose telephone number is (571)270-3324. The examiner can normally be reached on Monday to Friday 8:00am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ryan Zeender can be reached on 571-272-6790. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Fahd A Obeid/
Examiner, Art Unit 3627
October 3, 2010

/F. Ryan Zeender/

Supervisory Patent Examiner, Art Unit 3627